



SECURITY, GOOD LOOKS AND ENERGY EFFICIENCY: THE RCMP'S NEW E DIVISION HEADQUARTERS HAS IT ALL

RCMP Building

The RCMP's E Division is united at last! After years of working out of an aging and significantly overcrowded headquarters at 37th and Heather in Vancouver—plus various smaller locations spread throughout Metro Vancouver—all 25 separate divisional units are now housed in one facility.

And what a facility it is.

Located at 14200 Green Timbers Way in Surrey, the new headquarters is made up of three buildings, including one seven-storey office tower, a data centre and workshop/storage facility, which total more than 76,000 square metres. All three were built to standards that successfully combine the RCMP's specific requirements (including rock-solid security, an on-site cafeteria and post-disaster readiness) with both good looks and the highest possible energy efficiency.

"It was a very, very complex build," says Project Director Franck Lombard of Bouygues Building Canada. "The data centre, for example, which has an enormous number of data connections, has to be able to work at 100 per cent for at least 72 hours after a disaster, so the inside envelope had to be incredibly well structured. But it also had to look good outside. And it does."

PUBLIC-PRIVATE PARTNERSHIP

The new RCMP E Division headquarters was built as a public-private partnership between Public Works and Government Services Canada and Green Timbers Accommodation Partners (GTAP), a consortium lead by Bouygues Building Canada. Under the partnership, the private partner—GTAP—was contracted to design, construct, finance and manage the facility for a period of 25 years, while the Government of Canada retains ownership of both site and facility.

From the beginning, GTAP was committed to designing and building the facility to LEED® (Leadership in Energy and Environmental Design) Gold certification, and to working with BC Hydro to further ensure its energy efficiency. As a result, GTAP, along with design partners Kasian Architecture, Stantec Consulting Ltd. and Integral Group (formerly Cobalt Engineering), signed up with BC Hydro's New Construction Program early in the design process to complete a detailed energy-modelling study. The study is a simulation of how much energy a building day and night will use throughout a year. Designers can compare various lighting, heating and cooling systems as well as windows, roofing, wall and other products—and even look at how the building is situated on the site—to determine the most energy-efficient design.

POST-DISASTER READINESS

The new headquarters is the largest RCMP Division headquarters in the country, housing up to about 2,700 employees.

It is also the most prepared for what may come in this age of extreme weather and earthquake fears: it is the only RCMP headquarters with a post-disaster building. If the main building cannot function because of a natural disaster, the post-disaster building will keep RCMP operations running.

The new location in Surrey also means officers have quicker access to major roadways and can respond faster to natural disasters throughout Metro Vancouver.

“The value of doing an energy study with BC Hydro is, of course, that it leads to reduced energy use, which is a win for everybody in the long term,” says Stuart Hood, Integral Group Managing Partner. “Owners get long-term operational savings, while tenants get a more pleasant built environment, with more daylight, more consistent temperature and ventilation, etc. Plus, the incentives BC Hydro offers to implement energy-saving measures makes the financial case much easier to bear.”

ENERGY STUDY RESULTS: 18 PER CENT LESS

The final energy-modelling study concluded that a bundle of more than 10 separate energy-conservation measures would save over 3.7 gigawatt hours per year of electricity, or a significant 18 per cent less than a comparable building without those measures.

Energy-saving measures in the three buildings, which were completed on December 23, 2012 and occupied by the RCMP in phases beginning in January 2013, included:

- increasing the roof insulation to R-30
- increasing the wall insulation to R-20
- improving the glazing insulation to R3.12
- installing a chilled beam HVAC system in the main building
- installing a waterside economizer for cooling the data centre
- installing a variable refrigerant flow system for the post-disaster building
- installing variable speed drives on all pumps and fans
- installing interior and exterior lighting controls, and
- reducing the lighting density by 20 per cent on the interior and 15 per cent on the exterior.

For Integral’s Stuart Hood, the chilled beam system is a major highlight. “Only one or two buildings in the region use them,” he says, “and it’s the largest installation we know in western Canada. A chilled beam is a method of cooling a building using water. It minimizes maintenance— it takes much less maintenance than traditional systems such as a fan coil, for example—and that saves on costs and on having to have outside maintenance people go into a secure building.” Also exciting, he says, “We’re using heat from the data centre and telecommunication rooms to provide hot water and heat to other parts of the facility. Nothing goes to waste.”

Says Bouygues’ Franck Lombard, “the chilled beams are very smart, very silent, very efficient, but so are the other measures we built in. I think people will be very surprised at how far we’ve gone with energy efficiency. And how great this facility looks. It’s a fantastic place for the RCMP to work. We’re very proud of these buildings.”

To find out more about energy modeling and BC Hydro’s New Construction Program, visit bchydro.com/construction or call 1 866 522 4713.

